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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary, Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: *Bell Atlantic/GTE Merger Order* -- CC Docket No. 98-184

Dear Ms. Salas:

Catena Networks, Inc. ("Catena") files these brief comments in support of Verizon's request to eliminate the separate subsidiary requirement for its advanced services activities without waiting the nine months reflected in the merger conditions.¹ As a manufacturer of integrated POTS and DSL technologies, Catena appreciates the myriad benefits that customers and carriers will enjoy from deployment of advanced services in this manner. Without the relief requested by Verizon, however, those benefits will be delayed or denied needlessly. Catena thus believes that the public interest would be advanced by prompt grant of Verizon's request to accelerate the provision of advanced services directly, without having to operate through the separate subsidiary requirement imposed by the merger conditions.

As Catena has explained elsewhere, integration of voice and high-speed data services on a single linecard is generally the most efficient way to make advanced services available to a wide variety of subscribers served by remote terminals.² The use of separate splitters and DSLAMs wastes space, power and spectrum, which are all constrained in remote terminal deployments. Moreover, use of a Central Office "overlay" solution at the remote terminal imposes higher costs as a result of the need for larger cabinets or additional cabinets and pouring separate concrete pads.

¹ *Public Notice*, DA 01-1325, released May 31, 2001, referring to the Letter from Grodon R. Evans to Magalie Roman Salas (hereafter cited as "Evans Letter").

² *E.g.*, Comments of Catena in CC Docket Nos. 98-147 and 96-98, filed February 27, 2001; Comments of Catena in CPC Docket Nos. 98-147 and 96-98, filed October 12, 2000; Reply Comments of Catena in CC Docket Nos. 98-147 and 96-98, filed November 14, 2000.

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Catena has designed products that take advantage of the advances in microcircuit technology so that voice and DSL services can be provided over a single copper loop using an integrated linecard deployed in remote terminals. Catena has developed its CNX-5 line of products, which provide an integrated linecard solution for the SLC-5 series of legacy remote terminals.³ Catena also has developed its own CN1000 remote terminal systems for new deployments and upgrades that incorporate integrated solutions.⁴ With advanced technologies such as Catena's CNX-5 and CN1000 products, the integrated POTS + DSL linecard takes up no more room and virtually no more power than a linecard offering POTS only, and the scaleable implementation is a highly efficient way to incrementally deploy service. Under the integrated model, the POTS service remains intact and the voice traffic continues to be backhauled to the Central Office over the existing POTS transport infrastructure. There are no changes or impacts to the existing voice operations, maintenance or procedures.

The Commission, however, must be careful not to impose regulatory requirements that would inhibit or preclude the deployment of such integrated solutions. These barriers can be direct, such as mandates that splitters be deployed or requirements for structural separation that would preclude ownership by the incumbent carrier of equipment that provides both voice and advanced services on an integrated basis. Alternatively, by creating inaccurate pricing signals (such as requiring the ILECs to unbundle the advanced technologies and sell them to competitors at below cost prices), the Commission could discourage the deployment of advanced services by the incumbent carriers. In either case, the result is the same – consumers would be denied the benefits of advanced services and/or competition to the broadband services offered by cable companies, satellite carriers or terrestrial wireless service providers.

Verizon's petition demonstrates the very real impact of these theoretical concerns. As a result of the separate subsidiary requirement, Verizon will be unable to provide DSL services to many communities. That requirement was adopted as a condition to the merger between Bell Atlantic and GTE. As Verizon indicates, the separate subsidiary

³ For the embedded base of SLC-5 remote terminals, Catena's CNX-5 products are the only economical way to provide DSL services. There is not adequate extra room, power or heat dissipation to allow collocation of even mini-DSLAMs, so an overlay system is unlikely to be deployed. In addition, given the absence of a concentrated subscriber base typically served by the legacy SLC-5 remote terminals, the carrier is unlikely to remove those terminals entirely and replace them with a Next Generation Digital Loop Carrier. Therefore, if an integrated linecard technology is not deployed, then the 20 million subscribers served by these embedded remote terminals will not have access to DSL services.

⁴ See "Catena Networks Introduces CN1000 Broadband Loop Carrier" press release, June 4, 2001 (attached), describing the introduction of a new class of broadband access systems designed for mass market deployment of DSL services and the converged, packet-based public network.

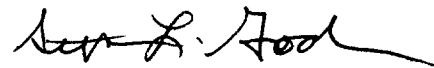
requirement precludes it from deploying advanced services equipment, including integrated linecard technology (Evans Letter at p. 2). While the separate subsidiary requirement in the merger conditions incorporates a nine-month sunset provision that has been triggered by the *ASCENT* decision, absent relief Verizon will be unable to provide DSL services to many of its potential customers until the separate subsidiary requirement is actually eliminated. Thus, the separate subsidiary requirement will serve to delay the availability of DSL services and the competition those offerings would provide to the broadband services of the cable companies, satellite carriers and terrestrial wireless service providers.

Catena believes that such a delay is unnecessary. The Commission has adopted non-structural safeguards (such as accounting rules and price caps) that would be applicable to these offerings, and in addition the merger conditions specify other protections to prevent discrimination (such as use of the same wholesale interfaces, processes and procedures that are available to other CLECs). Verizon also apparently will make a "wholesale" DSL service available to CLECs and DLECs (Evans Letter at p. 2), which will allow those companies to compete with Verizon.⁵ Thus, with grant of the waiver there will be competition between Verizon and the CLECs and DLECs, as well as competition with the cable, satellite and wireless broadband providers.

In sum, Catena believes that eliminating the separate subsidiary requirement for Verizon's advanced services activities will well serve the public interest, insofar as it will eliminate an unnecessary delay in the deployment of integrated linecard technologies. This in turn will enhance competition for advanced services, and make DSL services available to unserved and underserved communities in Verizon's territories.

Please contact the undersigned if you have any questions with regard to this submission.

Respectfully submitted,



Stephen L. Goodman
Counsel for Catena

cc: Janice M. Myles
International Transcription Services
Gordon R. Evans

⁵ As Catena discussed in its February 27, 2001 Comments in CC Docket Nos. 98-147 and 96-98 (at p. 11), technology exists for "partitioned OSS" that allows the CLECs to differentiate their offerings and to conduct their own maintenance and testing of their customers' service.



News Release

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Catena Networks Introduces the CN1000 Broadband Loop Carrier; a New Class of Access System for Mass-Market DSL and the Converged Public Network

CN1000 Broadband Loop Carrier Enables Graceful, Line-by-Line Migration to Converged Packet-Based Public Network

Atlanta – June 4, 2001 – At SUPERCORE 2001 today, Catena Networks introduced a new class of broadband access system designed for the mass-market deployment of broadband digital subscriber line (DSL) services and the converged, packet-based public network.

The Catena CN1000 Broadband Loop Carrier (BLC) is a highly integrated broadband access system that will enable carriers to cost-effectively provision and manage volume voice and DSL services. It also will help service providers make a graceful, line-by-line migration from today's circuit-based time-division multiplexed (TDM) network to a converged packet-based public network.

Catena will demonstrate the CN1000 BLC, which is designed for both outside-plant and central-office applications, at Booth #7923 in Hall H of the Georgia World Congress Center.

The growing demand for residential broadband services has created a pressing need for service providers to cost-effectively deliver DSL at high volumes. The Yankee Group, a Boston, Mass.-based market research firm, projects that the U.S. residential DSL market will grow from 2.8 million subscribers in 2001 to 10.5 million subscribers in 2005 – with U.S. DSL equipment sales exceeding \$1 billion per year during those four years.

Still, more than 40 percent of residential subscribers are unable to get DSL because they do not meet specific connection criteria or because deployment hasn't kept pace with demand in their area.

The CN1000 is based on a patented architecture developed by Catena, which will enable carriers to accelerate the deployment of volume broadband DSL services, while enabling the convergence of voice and data in the access network.

This access architecture will reduce the capital and operational costs of deploying DSL services by as much as 50 percent, by completely integrating Plain Old Telephone Service (POTS) and DSL on every line, at costs approaching POTS-only solutions.

-more-

Catena's CN1000 BLC terminates the loop at the first access point in the carrier's network and provides a single data path for the delivery of all services. Each subscriber line will support lifeline telephone service and be "DSL ready" the moment it is installed. This means that service providers can remotely provision POTS and DSL services as soon as the customer order is placed, without truck rolls to remote sites.

According to Matthew Davis, program manager for E-Networks & Broadband Access at The Yankee Group, "Carriers have been searching for a cost-effective, profitable and scalable way to deliver broadband DSL and new packet-based services to subscribers served from remote terminals. Catena's Broadband Loop Carrier creates a new option for service providers that want to meet strong consumer demand for DSL, integrate their volume voice and DSL operations, and migrate to emerging softswitch architectures."

Bob Machlin, president and CEO of Catena Networks, said Catena's Broadband Loop Carrier differs considerably from current Next-Generation Digital Loop Carrier systems (NGDLCs) in remote terminal applications.

"Current NGDLCs are based on TDM architectures," Machlin said. "These systems utilize DSL or combination POTS+DSL line cards, which sacrifice POTS port capacity to deliver DSL service and impose high traffic-engineering costs. In contrast, Catena's CN1000 is engineered from the ground up using a high-bandwidth, packet-based architecture and unique, highly integrated POTS/DSL silicon technology. This level of integration enables service providers to deliver POTS and DSL on every port, without sacrificing POTS port capacity, and dramatically reduces their capital and operational costs."

The Catena CN1000 BLC incorporates the functionality of a DSL Access Multiplexer (DSLAM), a Media Gateway and a Digital Loop Carrier (DLC) system, while also eliminating the need for network-side POTS splitters and residential Integrated Access Devices (IADs). This highly integrated broadband access system significantly reduces complexity and points of failure, resulting in greater network reliability.

Service providers will have full spectrum connectivity to the subscriber loop, which will greatly simplify loop management and enable future, full-bandwidth services. In addition, Catena's architecture supports optional voice packetization, on a per-line basis, at the line termination point. This enables a graceful migration from the circuit-based TDM network to the new, packet-based public network.

To provision and manage mass-market DSL services, the CN1000 uses the CatenaView Element Management System (EMS) and a complete Application Programming Interface (API) suite. Expandable to hundreds of thousands of lines, CatenaView can be distributed across client/server platforms. The API provides the interfaces necessary to electronically link the CN1000 to upstream operation support systems and, by utilizing a TCP/IP-based protocol, enables interoperability regardless of platform, operating system, programming language, network hardware or software.

By enabling service providers to handle DSL service requests through remote provisioning from their network operations centers via the CatenaView EMS, the CN1000 can save up to \$200 per port in operational costs. Catena's programmable silicon technology also enables carriers to deliver new services via software downloads – as opposed to traditional costly hardware upgrades.

The CN1000 supports GR-303 and TR-08 interfaces to legacy TDM networks, as well as Media Gateway Control Protocol (MGCP) and MEGACO (H.248) interfaces to converged packet-based networks.

Fully environmentally hardened for deployments in remote terminals, Catena's CN1000 BLC scales to more than four times the port density of existing NGDLCs. Its patented POTS+DSL silicon technology enables up to 2,112 integrated POTS+DSL ports per seven-foot rack.

The CN1000 is fully standards compliant and is fully interoperable with leading DSL customer premises equipment (CPE) and ADSL chip sets.

Pricing and Availability

Customer lab evaluations and field trials of the CN1000 BLC are expected to begin in the fourth quarter of 2001. The CN1000, delivering 100 percent POTS and 100 percent DSL capacity, is price competitive with leading NGDLCs provisioned with only 10 to 15 percent DSL capacity. For more information, contact Catena Networks at 866-2CATENA or visit the company's web site at www.catena.com.

About Catena Networks

Catena Networks will enable the mass-market deployment of broadband DSL services and help carriers migrate to a converged packet-based access network that integrates their volume voice and DSL operations. With Catena's solutions, service providers can deliver fully integrated voice and data services to residential and business subscribers more quickly, cost-effectively and profitably than ever before. Headquartered in Redwood Shores, Calif., the company operates a world-class research and development facility in Ottawa, Ontario, Canada and has 340 employees across North America. Founded in 1998, Catena is a privately held company that has secured U.S. \$117 million in venture financing. For more information, please access www.catena.com.

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